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| 10/089,369      | 03/28/2002  | Alfred Schurmann     |                     | 7796             |

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EXAMINER

COUGHLAN, PETER D

ART UNIT

PAPER NUMBER

2129

DATE MAILED: 10/03/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/089,369

Applicant(s)

SCHURMANN, ALFRED

Examiner

Peter Coughlan

Art Unit

2129

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 14 September 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>3/28/2002</u> . | 6) <input type="checkbox"/> Other: _____  |

## Detailed Action

Claims 1-12 are pending in this application.

### *Examiner's response to the amendment dated March 19, 2002*

The amendment was not considered because it did not follow the guidelines set forth in section 714 in the MPEP. In addition, the amendment seems to be two pages (32-33) for substitution for the original application. Problems arise from this is the fact the section before the amended Claim 3 does not match the section before Claim 3 in the original application. Another problem following the assumption about page substitution is there is nothing after Claim 5 on page 33. Does this mean there are no longer claims 6 through 12? Due to this inconsistency, this amendment was not considered.

### *Claim Objections*

Claim 3 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to another claim in the alternative only. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

Claim 4 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on multiple dependent claim. See MPEP § 608.01(n).

Accordingly, the claim has not been further treated on the merits.

Claim 5 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n).

Accordingly, the claim has not been further treated on the merits.

Claim 6 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n).

Accordingly, the claim has not been further treated on the merits.

Claim 7 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n).

Accordingly, the claim has not been further treated on the merits.

Claim 9 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n).

Accordingly, the claim has not been further treated on the merits.

Claim 10 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend on multiple dependent claim. See MPEP § 608.01(n).

Accordingly, the claim has not been further treated on the merits.

Claim 12 objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n).

Accordingly, the claim has not been further treated on the merits.

### ***35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-12 are rejected under 35 U.S.C. 101 because the language of the claims raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. 101. The phrase ‘stimulus’ used in all these claims does not link the abstract concept to the technological art, environment or machine. It is suggested the applicant use the phrase “computer implemented” in the preamble of independent claim 1 to describe the invention since this would cure the deficiency.

*Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1, 2, 8 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al in view of Schurmann, in view of El-Nasr, in view of Joao (Integration of Various Emotion Eliciting Factors for Life-like Agents, referred to as **Lee**; Cooperation in a Motivated, Behaviour Based Multi-Agent System, referred to as **Schurmann**; A Fuzzy Emotional Agent for Decision-Making in a Mobile Robot, referred to as **El-Nasr**; U. S. Patent 5,961,332, referred to as **Joao**).

Claim 1.

Lee teaches determination of intensity of expected stimulus of an object, of a situation or of an activity (OSA). (**Lee**, p156, C2:11-13; Examiner's Note (EN) Object = object, agent = situation and event = activity.)

Lee teaches representation of emotions, both positive and negative (**Lee**, p157 C1:10-11; EN Lee sets this up as a neural network with a weighted node being associated to an emotion. If the node fires, the emotion is present.).

Lee teaches a representation of intensity of contentment or dissatisfaction (Lee, p157 C1:28-33).

Claim 2.

Lee doesn't teach the intensities of these feelings of Pd at time t, are given by the function values ( e.g.by  $zful(Pd, b, t)$  ), where Pd denotes a human, a mammal, a virtual human or mammal in software system, or an agent system (e.g. a robot). Schurmann teaches the intensities of these feelings of Pd at time t, are given by the function values ( e.g. by  $zful(Pd, b, t)$  ), where Pd denotes a human, a mammal, a virtual human or mammal in software system, or an agent system (e.g. a robot) (**Schurmann**, section 2.5 Attraction and Motivation, lines 4-5; EN SM1 is the person/agent and SM2 is the need/desire.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the representation of stimulus patterns in descriptions of objects, situations and activities of Lee with the intensities of feelings described as a function by Schurmann. This enables each emotion to have different properties from one another and be modified as needed.

Lee doesn't teach the intensities of said emotions change when: (i)Pd perceives values of satisfactions ( $bef(Pd, b, ta)$ ) and desires ( $des(Pd, b, ta)$ ) by senses or sensors, (ii) Pd perceives an object, a situation, or an activity (OSA), (iii) Pd perceives that he/she is achieving his/her goal or that he/she cannot achieve the goal situation. Schurmann teaches the intensities of said emotions change when: (i)Pd perceives values of satisfactions ( $bef(Pd, b, ta)$ ) and desires ( $des(Pd, b, ta)$ ) by senses or sensors(**Schurmann**, section 2.5 Attraction and Motivation, lines 11-15; EN This example shows the desire function, satisfaction requirement would model the same format.), (ii)

Art Unit: 2129

Pd perceives an object, a situation, or an activity (OSA) ( **Schurmann**, section 2.5 Attraction and Motivation, lines 4-5; EN Since a object, situation, or activity is part of the function (SM2) it is obvious it is perceived.), (iii) Pd perceives that he/she is achieving his/her goal or that he/she cannot achieve the goal situation (**Schurmann**, section 2.5 Attraction and Motivation, lines 11-15; EN This is simply done by using 'satisfaction' version of this 'desire' equation and comparing the output to a standard/range to produce an outcome.). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the representation of stimulus patterns in descriptions of objects, situations and activities of Lee with generating values of satisfaction and desire, using objects, situations or activities as input, and output a final result of achieving or failing a goal situation by Schurmann. These equations are very simple and straightforward in understanding the basic question, given an agent, in a situation at time t, what is the output. The output is the basic building blocks at time t.

Lee doesn't teach the stimulus patterns are associated with a goal situation, in the list of current goals. Schurmann teaches the stimulus patterns are associated with a goal situation, in the list of current goals (**Schurmann**, section 2.5 Attraction and Motivation, lines 16-17). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the representation of stimulus patterns in descriptions of objects, situations and activities of Lee with the stimulus patterns are associated with a goal situation, in the list of current goals by Schurmann. Keeping a list of current goals in a list form makes it easier to read, understand and modify.

Lee teaches representation of intensity of contentment and joy when a Pd realizes achieving a goal and representation of intensity of dissatisfaction, disappointment and anger



Art Unit: 2129

when obstacles make difficult to realize achieving of a goal situation or of an intermediate goal, or when Pd has not achieved his/her goal (Lee, p156, lines 14-18).

Claim 8.

Lee and Schurmann do not teach the method for representing the intensity of fear – it includes: said intensity of fear is determined by said, in claim 1, intensity of stimulus of an object, of a situation or of an activity, OSA. El-Nasr teaches the method for representing the intensity of fear – it includes: said intensity of fear is determined by said, in claim 1, intensity of stimulus of an object, of a situation or of an activity, OSA (El-Nasr, p137 C:1, 10-13). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the representation of stimulus patterns in descriptions of objects, situations and activities of Lee with the intensity of fear is determined by said, in claim 1, intensity of stimulus of an object, of a situation or of an activity, OSA by El-Nasr. This portrays the result of fear due to the stimulus of no escape route.

Claim 11.

Lee Schurmann and El-Nasr do not teach the method for representing the intensity of shame – it includes said intensity of shame is determined by said in claim 2, intensity of the emotions dissatisfaction, annoyance, anger, grief, pain and suffering (e.g. by  $z_{ful}(Pd, AN, t)$ ), with respect to the need (AN) for recognition, acknowledgment and self-esteem.

Lee teaches the format for the equation of shame ( $z_{ful}(Pd, AN, t)$ ) (Lee, section Attraction and Motivation, lines 4-5).

Art Unit: 2129

Joao teaches teach the method for representing the intensity of shame – it includes said intensity of shame (Joao, C:16, 21) is determined by said in claim 2, intensity of the emotions dissatisfaction, annoyance, anger, grief, pain and suffering (Joao, C:16, 8-9, and C:25, 4-18) (e.g. by zful(Pd, AN, t)), with respect to the need (AN) for recognition, acknowledgment and self-esteem (Joao, C:16, 53). It would have been obvious to a person having ordinary skill in the art at the time of applicant's invention to modify the representation of stimulus patterns in descriptions of objects, situations and activities of Lee with the intensity of shame is determined by said in claim 2, intensity of the emotions dissatisfaction, annoyance, anger, grief, pain and suffering (e.g. by zful(Pd, AN, t)), with respect to the need (AN) for recognition, acknowledgment and self-esteem by Joao. This shows the flexibility and range of such a design.

### *Conclusion*

The prior art of record and not relied upon is considered pertinent to the applicant's disclosure.

- Behavioral Self-organization in Lifelike Agents, Jiming Liu and Hong Qin
- Determination of Satisfaction and Desire in virtual Creatures
- Humanoid Robots: A New Kind of Tool, Bryan Adams, Cynthia Breazeal, Rodney Brooks, Brian Scassellati

Claims 1, 2, 8 and 11 are rejected.

*Correspondence Information*

Any inquiry concerning this information or related to the subject disclosure should be directed to the Examiner Peter Coughlan, whose telephone number is (571) 272-5990. The Examiner can be reached on Monday through Friday from 7:15 a.m. to 3:45 p.m.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's supervisor Anthony Knight can be reached at (571) 272-3687. Any response to this office action should be mailed to:

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Hand delivered to:

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401 Dulany Street,  
Alexandria, Virginia 22313,  
(located on the first floor of the south side of the Randolph Building);

or faxed to:

(571) 273-8300 (for formal communications intended for entry.)

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for unpublished

Art Unit: 2129

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Peter Coughlan

9/22/2005

